Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A method for forming a damascene interconnect structure with a bi-layer capping film, comprising the following steps:

providing a semiconductor wafer;

depositing a dielectric layer over the semiconductor wafer, the dielectric layer having a main surface and a damascened recess on the main surface;

depositing a copper layer in the damascened recess and to fill the damascened recess;

performing a chemical mechanical polishing process to polish the copper layer such that the copper layer has an exposed upper surface substantially co-planar with the main surface of the dielectric layer; and

capping the exposed upper surface with a bi-layer capping film consisting of a lower HDPCVD silicon nitride layer and an upper ~~doped silicon carbide~~ oxygen doped silicon carbide layer.

2. (Original) The method according to claim 1 wherein after polishing the copper layer to form the upper surface and before capping the exposed upper surface with the bi-layer capping film, the upper surface is pre-treated by hydrogen or ammonia plasma for reducing residual copper oxides on the upper surface.

3. (Original) The method according to claim 2 wherein the hydrogen or ammonia plasma pre-treatment is carried out at a temperature of below 300℃ for a time period of about 10 seconds to 60 seconds.

4. (Original) The method according to claim 1 wherein the lower HDPCVD silicon nitride layer is formed by high density plasma chemical vapor deposition (HDPCVD) at a temperature of below 350℃.

5. (Canceled)

6. (Original) The method according to claim 5 wherein the upper doped silicon carbide layer is produced by a chemical vapor deposition (CVD) process, in which 3-methyl silane or 4-methyl silane is used as a precursor.